AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (original)   A terminal for providing a virtual environment interface to server means which maintains said virtual environment as a plurality of zones, comprising:

a client providing a user interface to the virtual environment to allow a user to control an avatar in the virtual environment; and

apparatus for estimating the likelihood of said avatar, under the control of said user in the virtual environment, moving within a predetermined range of a boundary, the apparatus comprising:

recording means for recording the position of the avatar at intervals to obtain movement data;

means for storing data as to the relative frequency of occurrence of different categories of said movement;

means arranged to read, from the stored data, frequency data for categories of movement such as would correspond to a potential movement of the avatar from its current position into a position within said predetermined range of said boundary;

wherein the client is arranged to obtain information from said server means about the status of the adjacent zone only when the likelihood of the avatar

moving within the predetermined range of the boundary of said adjacent zone is above a threshold.

2.   (original)   A terminal according to claim 1 wherein said threshold is determined in dependence upon a cost function.

3.   (previously presented)   A terminal according to claim 1 wherein said threshold is determined in dependence upon the amount of communication traffic and/or the time taken for the communication with the server means.

4.   (previously presented)   A terminal according to claim 1 wherein said means for storing data is arranged to discard data relating to movement after a set period of time.

5.   (previously presented)   A terminal according to claim 1 wherein said recording means is adapted to record the position of said avatar at regular intervals of time in said virtual environment.

6.   (previously presented)   A terminal according to claim 1 wherein the potential movement of the avatar takes into consideration obstructions to the movement of said avatar within said virtual environment.

7.   (previously presented)   A terminal according to claim 1 wherein said predetermined range is dependent upon a range of awareness of said avatar within which said avatar can experience the virtual environment.

8.   (previously presented)   A terminal according to claim 1 wherein said categories of movement are determined by run lengths.

9.   (previously presented)   A terminal according to claim 1 wherein said categories of movement are determined by run lengths within a predefined corridor.

10.   (previously presented)   A terminal according to claim 1 wherein said categories of movement are determined by the movement of said avatar into areas around said avatar.

11.   (previously presented)   A terminal according to claim 1 wherein said categories of movement are determined by directions and distances of movement of said avatar.

12.   (original)   Apparatus for estimating the likelihood of an avatar, under the control of a user in a virtual environment, moving within a predetermined range of a boundary, the apparatus comprising:

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recording means for recording the position of the avatar at intervals to

obtain movement data;

means for storing data as to the relative frequency of occurrence of

different categories of said movement; and

means arranged to read, from the stored data, frequency data for categories

of movement such as would correspond to a potential movement of the avatar

from its current position into a position within said predetermined range of said

boundary.

13.   (original)   Apparatus according to claim 12 wherein said means

for storing data is arranged to discard data relating to movement after a set period

of time.

14.   (previously presented)   Apparatus according to claim 12 wherein

said recording means is adapted to record the position of said avatar at regular

intervals of time in said virtual environment.

15.   (previously presented)   Apparatus according to claim 12 wherein

the potential movement of the avatar takes into consideration obstructions to the

movement of said avatar within said virtual environment.

16.   (previously presented)   Apparatus according to claim 12 wherein said predetermined range is dependent upon a range of awareness of said avatar within which said avatar can experience the virtual environment.

17.   (previously presented)   Apparatus according to claim 12 wherein said categories of movement are determined by run lengths.

18.   (previously presented)   Apparatus according to claim 12 wherein said categories of movement are determined by run lengths within a predefined corridor.

19.   (previously presented)   Apparatus according to claim 12 wherein said categories of movement are determined by the movement of said avatar into areas around said avatar.

20.   (previously presented)   Apparatus according to claim 12 wherein said categories of movement are determined by directions and distances of movement of said avatar.

21.   (currently amended)   A system for providing a distributed virtual environment comprising:

one or more servers for maintaining said virtual environment as a plurality

of zones;, said one or more servers receiving communication from a client ~~for~~

~~providing a user interface to the virtual environment~~ to allow a user to control an

avatar in the virtual environment; and

an apparatus for predicting the likelihood of said avatar moving within a

predetermined range of a boundary of a zone in the virtual environment;

wherein said ~~client~~ one or more servers is arranged to communicate with

the client ~~one or more servers~~ to ~~obtain~~ provide information on the status of one or

more further zones in the virtual environment when the likelihood of the avatar

moving within a predetermined range of the boundary of said one or more further

zones predicted by the apparatus is above a threshold.

22.   (original)   A system according to claim 21 wherein said threshold

is determined in dependence upon a cost function.

23.   (previously presented)   A system according to claim 21 wherein

said threshold is determined in dependence upon the amount of communication

traffic and/or the time taken for the communication with the one or more servers.

24.   (previously presented)   A method of operating a computer

terminal to provide a virtual environment interface to server means which

maintain said virtual environment as a plurality of zones, the method comprising:

controlling a client which provides a user interface to the virtual

environment to allow a user to control an avatar in the virtual environment; and

estimating the likelihood of said avatar, under the control of said user in a

virtual environment, moving within a predetermined range of a boundary,

estimating said likelihood comprising:

recording the position of the avatar at intervals to obtain movement

data;

storing data as to the relative frequency of occurrence of different

categories of said movement; and

reading, from the stored data, frequency data for categories of

movement such as would correspond to a potential movement of the avatar

from its current position into a position within said predetermined range of

said boundary; and

instructing the client to obtain information from said server means

about the status of an adjacent zone only when the likelihood of the avatar

moving within the predetermined range of the boundary of said adjacent

zone is above a threshold.

25.   (original)   A method according to claim 24 wherein said

threshold is determined in dependence upon the amount of communication traffic

and/or the time taken for the communication with the server means.

26. (original) A method according to claim 24 wherein stored movement data is discarded after a set period of time.

27. (previously presented) A storage medium storing instructions for controlling a computer to carry out the method of claim 24.

28. (original) A signal carrying computer-implementable instructions for controlling a computer to carry out the method of claim 24.

29. (new) In a computer system having at least one server for providing a virtual environment having a plurality of zones in which an avatar may move in response to user control signals received from a client, a method comprising:

monitoring movement of the avatar within the virtual environment for a period of time;

determining a pattern of movement of the avatar based on the monitored movement;

predicting a likelihood of the avatar, based on the determined pattern of movement, of moving to within a predetermined range of a boundary of a zone in which the avatar is currently positioned;

determining whether or not the predicted likelihood exceeds a threshold; and

obtaining information for a zone adjacent to the zone in which the avatar is currently positioned when the predicted likelihood exceeds the threshold.

30.   (new) The method of claim 29 wherein the threshold is determined in dependence upon a cost function, the amount of communication traffic of the at least one server, or an amount of time taken for the communication with the at least one server.

31.   (new) The method of claim 29 wherein monitoring the movement of the avatar includes obtaining a sliding window of data samples describing the avatar movement.

32.   (new) The method of claim 29 wherein predicting the likelihood of the avatar of moving to within the predetermined range of the boundary includes considering features within the virtual environment which restricts movement of the avatar.

33.   (new) The method of claim 29 wherein predicting the likelihood of the avatar of moving to within the predetermined range of the boundary includes considering features within the virtual environment which restricts an ability of the avatar to experience the virtual environment.

34.   (new) The method of claim 29 wherein predicting the likelihood of

the avatar of moving to within the predetermined range of the boundary includes

referring to a prediction model having a data table of run lengths of avatar

movement and corresponding likelihood to cross a zone boundary.